HD5112

Installation and Operation Manual

WMA MP3 COMPACT DISC DIGITAL AUDIO USB SD HD Radio SAT RADIO READY Made for iPod

160 Watts Peak
40W x 4

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Introduction

Congratulations on your purchase of the Jensen HD5112 Mobile Receiver. It's a good idea to read all of the instructions before beginning the installation. We recommend having your Jensen HD5112 installed by a reputable installation shop.

Features

- Built in HD Radio™ Tuner*
- Made for iPod
- XM and Sirius Satellite Radio Ready
- Supports MP3/ WMA files via CD- R/RW, SD card, or USB
- 24 Station Presets (18 FM/ 6 AM)
- Electronic Detachable Faceplate
- Rear Pre-amp Line Output
- 2MB ESP
- Last Position Memory
- Random, Repeat, Intro
- LCD Dimmer
- Preset EQ- Rock, Pop, Classic
- Loudness
- Electronic Bass, Treble, Balance, Fader
- jLink iPod Cable and 3.5mm Media Adapter Cables Included
- Infrared remote control

*HD Radio™ Technology Manufactured Under License From iBiquity Digital Corp. U.S. and Foreign Patents. HD Radio™ and the HD Radio logo are proprietary trademarks of iBiquity Digital Corp.

Preparation

Tools and Supplies

The following tools and supplies are needed to install the radio.

- Torx type, flathead and Philips screwdrivers
- Wire cutters and strippers
- Tools to remove existing radio (screwdriver, socket wrench set or other tools)
- Electrical tape
- Crimping tool
- Volt meter/test light
- Crimp connections
- 18 gauge wire for power connections
- 16-18 gauge speaker wire

SPEAKER REQUIREMENTS: Only connect speakers rated in the load impedance of 4 ohms. Speakers with a load impedance less than 4 ohms could damage the unit.

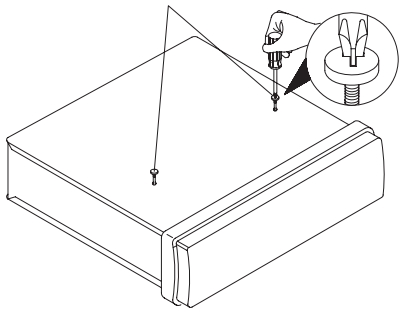
Disconnecting the Battery

To prevent a short circuit, be sure to turn off the ignition and remove the negative (-) battery cable prior to installation.

Removing the Transport Screws

Before installing the radio, you must remove the transport screws from the top of the radio. The transport screws are clearly marked.

Remove before installation.



NOTE: If the HD5112 is to be installed in a car equipped with an on-board drive or navigation computer, do not disconnect the battery cable. If the cable is disconnected, the computer memory may be lost. Under these conditions, use extra caution during installation to avoid causing a short circuit.

WARNING! Only connect the unit to a 12-volt power supply with proper grounding.

WARNING! Never install this unit where operation and viewing could interfere with safe driving conditions.

WARNING! Never disassemble or adjust the unit.

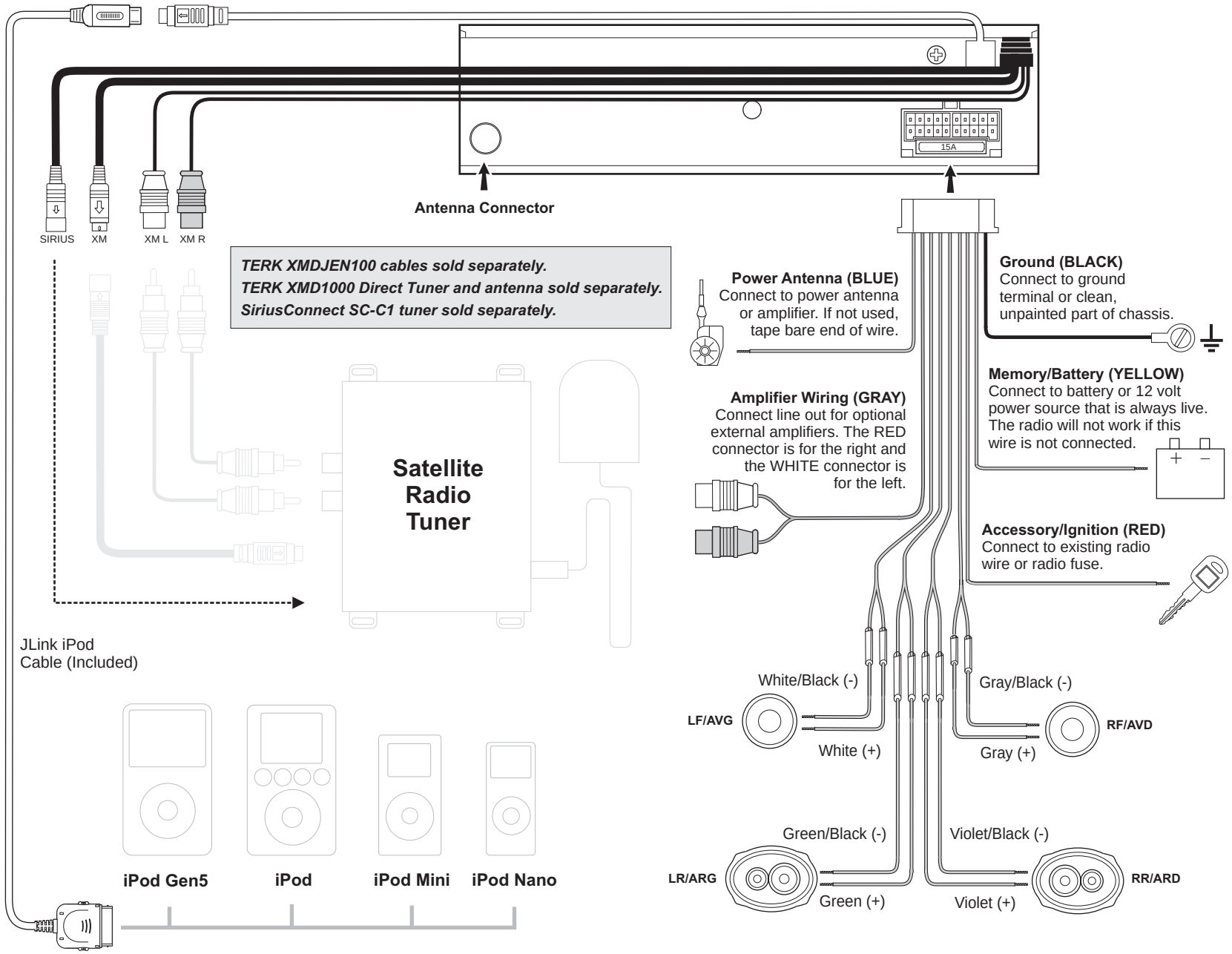
WARNING! Avoid installing the unit where it will be subject to excessive temperature, such as from direct sunlight or hot air from the heater, or where it will be subject to dust, dirt or excessive vibration.

WARNING! To prevent injury from shock or fire, never expose this unit to moisture or water.

WARNING! Never use irregular discs.

WARNING! Using an improper fuse may cause damage to the unit and result in a fire.

Wiring

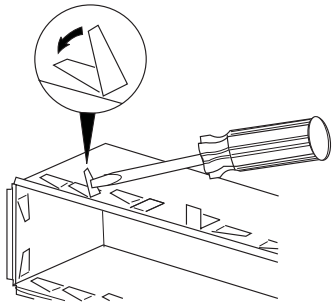

SIRIUS
XM
XM L
XM R
Antenna Connector
15A
TERK XMDJEN100 cables sold separately.
TERK XMD1000 Direct Tuner and antenna sold separately.
SiriusConnect SC-C1 tuner sold separately.
Satellite Radio Tuner
JLink iPod Cable (Included)
iPod Gen5
iPod
iPod Mini
iPod Nano
Power Antenna (BLUE)
Connect to power antenna or amplifier. If not used, tape bare end of wire.
Ground (BLACK)
Connect to ground terminal or clean, unpainted part of chassis.
Memory/Battery (YELLOW)
Connect to battery or 12 volt power source that is always live. The radio will not work if this wire is not connected.
Amplifier Wiring (GRAY)
Connect line out for optional external amplifiers. The RED connector is for the right and the WHITE connector is for the left.
Accessory/Ignition (RED)
Connect to existing radio wire or radio fuse.
White/Black (-)
LF/AVG
White (+)
Gray/Black (-)
RF/AVD
Gray (+)
Green/Black (-)
LR/ARG
Green (+)
Violet/Black (-)
RR/ARD
Violet (+)

Installation

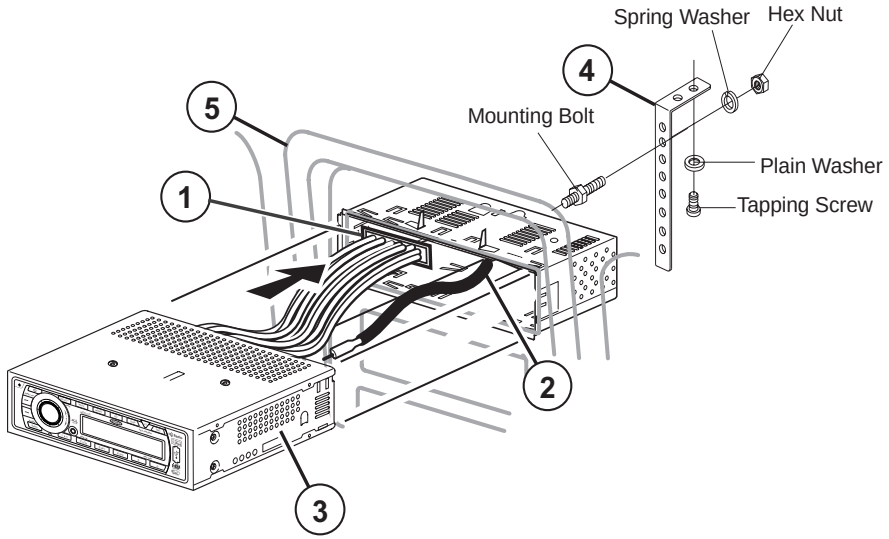
This unit is designed for installation in cars, trucks and vans with an existing radio opening. In many cases, a special installation kit will be required to mount the radio into the dashboard. These kits are available at electronics supply stores and car stereo specialty shops. Always check the kit application before purchasing to make sure the kit works with your vehicle. If you have trouble locating a kit or need installation assistance, contact Technical Support at 1-800-323-4815 from 9:00am to 6:00pm EST Monday through Friday.

Universal Installation Using Mounting Sleeve

1. Remove the detachable front panel, if it is attached to the chassis, by pushing the “Release” button.
2. Slide the mounting sleeve off of the chassis if it has not already been removed. If it is locked into position, use the removal keys (supplied) to disengage it. The removal keys are depicted on page 6.
3. Check the dashboard opening size by sliding the mounting sleeve into it. If the opening is not large enough, carefully cut or file as necessary until the sleeve easily slides into the opening. Do not force the sleeve into the opening or cause it to bend or bow. Check that there will be sufficient space behind the dashboard for the radio chassis.
4. Locate the series of bend tabs along the top, bottom and sides of the mounting sleeve. With the sleeve fully inserted into the dashboard opening, bend as many of the tabs outward as necessary to firmly secure the sleeve to the dashboard.



5. Place the radio in front of the dashboard opening so the wiring can be brought through the mounting sleeve.



6. Follow the wiring diagram carefully and make certain all connections are secure and insulated with crimp connectors or electrical tape to ensure proper operation.

NOTE: The amplifier in this radio is only designed for use with four speakers. Never combine (bridge) outputs for use with two speakers. Never ground negative speaker leads to chassis ground. Failure to wire exactly as shown may cause electrical damage to the radio.

7. After completing the wiring connections, attach the front panel and turn the unit on to confirm operation (vehicle ignition switch must be on). If the unit does not operate, recheck all wiring until the problem is corrected. Once proper operation is achieved, turn the ignition switch off and proceed with final mounting of the chassis.
8. Carefully slide the radio into the mounting sleeve making sure it is right-side-up until it is fully seated and the spring clips lock it into place.

9. Attach one end of the perforated support strap (supplied) to the screw stud on the rear of the chassis using the hex nut provided. Fasten the other end of the perforated strap to a secure part of the dashboard either above or below the radio using the tapping screw and washer provided. Bend the strap, as necessary, to position it. CAUTION: The rear of the radio must be supported with the strap to prevent damage to the dashboard from the weight of the radio or improper operation due to vibration. The strap also ensures proper electrical grounding of the unit.
10. Re-attach the front panel to the chassis and test radio operation by referring to the operating instructions for the unit.

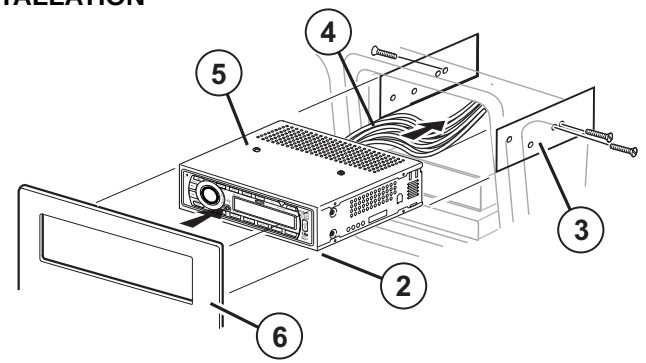
NOTE: For proper operation of the CD player, the chassis must be mounted within 20° of horizontal. Make sure the unit is mounted within this limitation.

ISO Installation

This unit has threaded holes in the chassis side panels which may be used with the original factory mounting brackets of some vehicles to mount the radio to the dashboard. Please consult with your local car stereo shop for assistance on this type of installation.

1. Remove the existing factory radio from the dashboard or center console mounting. Save all hardware and brackets as they will be used to mount the new radio.
2. Carefully unsnap the plastic frame from the front of the new radio chassis. Remove and discard the frame.
3. Remove the factory mounting brackets and hardware from the existing radio and attach them to the new radio using the same screws. Do not exceed M5 x 9 MM maximum screw size. Longer screws may damage components inside the chassis.
4. Wire the new radio to the vehicle as outlined in the Universal Installation instructions.
5. Slide radio chassis into dash opening and secure with factory radio screws.
6. Reinstall dash panel

ISO INSTALLATION



Kit Installation

If your vehicle requires the use of an installation kit to mount this radio, follow the instructions included with the installation kit to attach the radio to the mounting plate supplied with the kit.

1. Wire and test the radio as outlined in the Universal Installation instructions.
2. Install the radio/mounting plate assembly to the sub-dashboard according to the instructions in the installation kit.
3. Attach the support strap to the radio and dashboard as described in the Universal Installation instructions.
4. Replace the dashboard trim panel.

Fuses

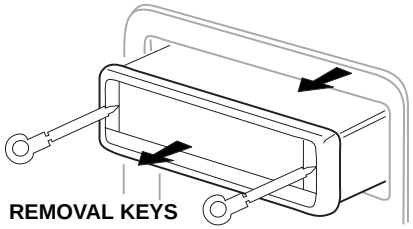
When replacing a fuse, make sure the new fuse is the correct type and amperage. Using an incorrect fuse could damage the radio. The HD5112 uses one 15 amp fuse located below the wiring connector (15 amp fast blow ATO).

Reconnecting the Battery

When wiring is complete, reconnect the battery negative terminal.

Removing the Radio

To remove the radio after installation, remove the trim ring by pulling outward on one side and then the other. Insert the removal keys straight back, with the notches facing up, until they lock. With the removal keys engaged, pull the radio straight out. If removal keys are inserted at an angle, they will not lock properly to release the unit.



Connecting the Satellite Radio Receiver (optional)

Before you can listen to satellite radio, you must install the satellite receiver and antenna (purchased separately). The satellite radio receiver is the central data receiving equipment required to process the satellite signals from the external antenna. It is typically installed in the dash, under the seat, or in the trunk or rear of the vehicle. Do not mount receiver near a heater vent or where it can be exposed to extreme temperatures. In addition, when running the wire for the external antenna do not kink or pinch the antenna cable. A sharp 90 degree bend or slight "nick" to the outer cable sheath will cause signal degradation. The wiring diagram will help you identify the proper connections.

Technical Assistance

If you require assistance, contact Technical Support at 1-800-323-4815 from 9:00am to 6:00pm EST Monday through Friday.

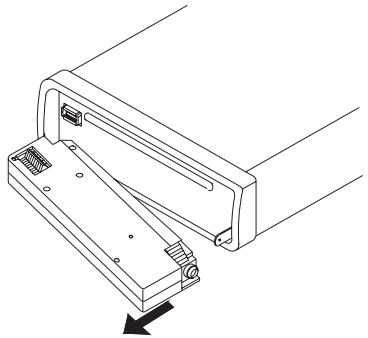
Front Panel Release

The ⏏ (open) button (9) releases the mechanism that holds the front panel to the chassis.

Detaching the Front Panel

To detach the front panel:

1. *Press and hold* the power button (1) to turn the unit off.
2. Press the open button (9) and allow the front panel to fold down.
3. Lift the front panel to a 30-45^{o} angle.
4. Pull to release the right side of the panel.
5. Pull the left side of the panel to remove it.



6. After removing the front panel, store it in the supplied carrying case and take it with you when you leave the car.

NOTE: You cannot remove the front panel with it completely open. You must lift the panel 30-45^{o} to remove it.

Re-attaching the Front Panel

To re-attach the front panel, make sure the electrical terminals on the back of the panel are free of dust and dirt, as debris could cause intermittent operation or other malfunctions. Position the right side of the panel in place until correctly engaged, then lightly press the left side of the panel until the mechanism locks it into place.

Precautions when Handling the Front Panel

- Do not drop the front panel.
- Do not put pressure on the display or control buttons when detaching or re-installing the front panel.
- Do not touch the contacts on the front panel or on the main unit body. It may result in poor electrical contact. Remove any dirt or foreign substances with a clean, dry cloth.
- Do not expose the front panel to high temperatures or direct sunlight.
- Keep all volatile agents (e.g. benzene, thinner, or insecticides) from touching the front panel
- Do not attempt to disassemble the front panel.

Operation

Power

Press the ⏻ (power) button (1) or any other button on the front of the radio (except release) to turn the unit on. *Press and hold* the power button to turn the unit off.

Liquid Crystal Display (LCD)

The liquid crystal display (LCD) panel (8) displays the frequency, time and activated functions of the unit, including a disc indicator, which appears lit when a disc is inserted.

Press the ⏻ (power) button (1) to change the LCD backlight brightness from HIGH (default) to MIDDLE to LOW.

NOTE: LCD panels may take longer to respond when subjected to cold temperatures for an extended period of time. In addition, the visibility of the numbers on the LCD may decrease slightly. The LCD display will return to normal when the temperature increases to a normal range.

Mode

Press **SRC** (2) to select a different mode of operation, as indicated on the display panel. Available modes include HD RADIO/TUNER (F1, F2, F3, AM1, AM2), SAT RADIO (if connected), CDP PLAY (CD), USB PLAY, SD PLAY, iPod (if connected) and AUX (auxiliary).

NOTE: CDP PLAY, USB PLAY, SD PLAY, satellite radio and iPod modes are only available if the associated device or media is inserted.

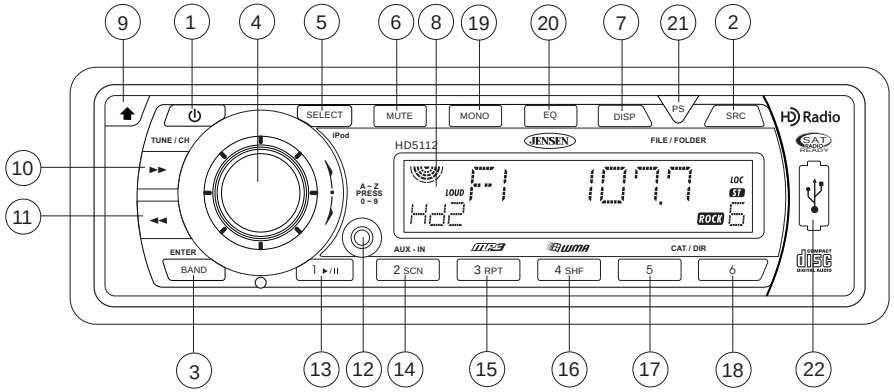
Audio Mute

Press the **MUTE** button (6) to silence the audio volume. “MUTE” flashes in the display. Press any button to cancel MUTE.

Volume / Audio Control

To increase the volume, rotate the rotary encoder (4) clockwise. To decrease the volume, rotate the rotary encoder counter-clockwise. When volume is adjusted, the volume level will be shown on the display panel as a number ranging from “VOL 00” (lowest) to “VOL 100” (highest).

Press the rotary encoder repeatedly to step through the following audio: VOLUME, BASS, TREBLE, BALANCE, and FADER. The unit automatically exits audio control mode after five seconds of inactivity.



BASS

To adjust the bass level from “-10” to “10”, press the rotary encoder until “BAS” appears on the display. Rotate the control clockwise to increase or counter-clockwise to decrease the bass. “00” represents a flat response.

TREBLE

To adjust the treble level from “-10” to “10”, press the rotary encoder until “TRB” appears on the display. Rotate the control clockwise to increase or counter-clockwise to decrease the treble. “00” represents a flat response.

BALANCE

To adjust the balance from “10L” (full left) to “10R” (full right), press the rotary encoder until “BAL” appears on the display. Rotate the control to adjust the balance between the left and right speakers. “L=R” represents a center balance.

FADER

To adjust the fader from “10F” (full front) to “10R” (full rear), press the rotary encoder until “FAD” appears on the display. Rotate the control to adjust the fader between the front and rear speakers. “F=R” represents an equal balance between the front and rear speakers.

Menu Operation

Press and hold the rotary encoder (4) to access the system menu. Repeatedly press the rotary encoder button to access menu options in the following order:

- BEEP ON/OFF: The beep tone feature allows the selection of an audible beep tone to be heard each time a button is pressed on the face of the radio. “BEEP ON” is the default display. Rotate the rotary encoder to select the “BEEP OFF” option.
- P--VOL: Turn the rotary encoder to select the default volume the radio will assume when first turned on.
- PCLK ON/OFF: When “ON”, the clock and backlight will remain on when the unit is turned off.
- PRI CLK/SRC: Select “CLK” to have the clock appear on the display during playback. Select “SRC” to have the current source appear during playback. Press the **DISP** button (7) to temporarily view the alternate display (clock or source) temporarily.
- HOURS 12/24: This option allows selection of a 12 hour or 24 hour clock format. “HOURS 12” is the default setting. Turn the rotary encoder to change to the 24 hour clock format.
- S--MODE NORMAL/HD SEEK (adjustable only in RADIO mode): Select “NORMAL” to allow the radio to search for both digital and analog stations. Select “HD SEEK” to only search and broadcast digital stations.

Equalizer

Press the **EQ** button (20) to choose one of the following pre-defined bass and treble curves: FLAT > CLASSICS > POP M > ROCK M > DSP OFF.

Loudness

Press and hold the **BAND** button (3) toggle loudness on/off. When listening to music at low volumes, this feature will boost the bass and treble ranges to compensate for the characteristics of human hearing.

Auxiliary Input

To access an auxiliary device:

1. Connect the portable audio player to the AUX IN jack on the front panel (12).
2. Press the **SRC** button (2) to select AUX mode.
3. Press **SRC** again to cancel AUX mode and go to the next mode.

Setting the Clock

If not already showing, press the **DISP** button (7) to display the clock. With the clock displayed, press and hold the **DISP** button and the time will flash on the display. Press the **TUNE/CH >>** button (10) to adjust the hours or the **TUNE/CH <<** button (11) to adjust the minutes. When in “HOURS 12” mode, “AM” or “PM” will appear on the display to indicate AM or PM. When no adjustment is made for five seconds, the time will become set and normal operation will resume.

Reset Button

The **RESET** button is located behind the front panel and should be activated for the following reasons:

- initial installation of the unit when all wiring is completed
- function buttons do not operate
- error symbol on the display

Use a ball point pen or thin metal object to press the **RESET** button. This may be necessary should the unit display an error code.

Tuner Operation

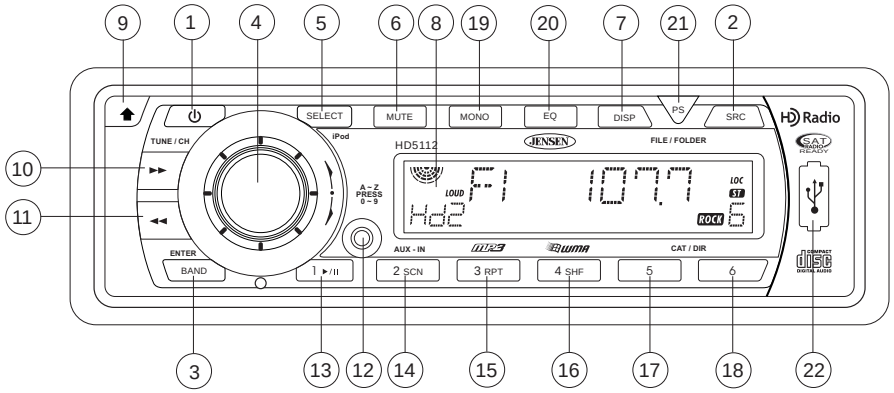
Press the **SRC** button (2) to switch to HD RADIO mode.

About HD Radio™ Technology

HD Radio technology allows CD-quality digital broadcasting of your local AM and FM radio stations. HD Radio broadcasts can include multiple channels on the same frequency, which is called multicasting. With multicasting, you can receive up to three additional multicast channels: HD2, HD3, HD4. With your HD5112 radio, you will receive HD Radio digital broadcasts automatically when tuned to a station that offers HD Radio technology.

Select a Band

Press the **BAND** button (3) to change between three FM bands and one AM band. Each band stores up to six preset stations.



Tuning

When tuning to an HD Radio channel, “LINKING” will appear on the LCD while the initial digital information is received. Once linked, “Hd1” appears in the bottom left corner of the LCD.

NOTE: Not all FM or AM stations offer HD Radio (digital) broadcasting. You will receive both analog and digital stations with the HD5112.

Manual Tuning

Press the **TUNE/CH >>** (10) or **TUNE/CH <<** (11) button for more than three seconds to enter manual tuning mode, then press the **TUNE/CH >>** or **TUNE/CH <<** buttons to move the radio frequency number up or down one step.

Auto Seek Tuning

Press the **TUNE/CH >>** (10) or **TUNE/CH <<** (11) button to automatically seek the next station.

Mono/Stereo

Press the **MONO** button (19) to select mono or stereo reception for analog radio stations. You can sometimes improve reception of weak stations by selecting mono operation. When in stereo mode, the “ST” icon (18) appears on the display.

HD Radio Multicast Channels

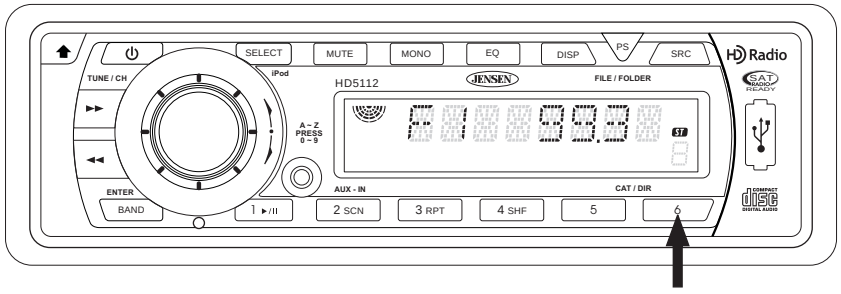
To tune to a HD Radio Multicast channel, tune to the main signal and then press the **SELECT** button (5). If a Multicast channel is available, the corresponding Multicasting number appears in the bottom left corner of the LCD.

Preset Stations

Six numbered preset buttons store and recall stations for each band.

Store a Station

Select a band (if needed), then select a station. Hold a preset button (13-18) for three seconds. The preset number will appear in the display.



PRESET NUMBER APPEARS

NOTE: HD Radio multicast channels can be stored as preset stations.

Recall a Station

Select a band (if needed). Press a preset button (13-18) to select the corresponding stored station.

Preset Scan

Scans stations stored in all FM or AM bands. Select a band (if needed), and then press the **PS** button (21). The unit will pause for 5 seconds at each preset station. Press the **PS** button again to stop scanning when the desired station is reached.

Broadcast Information

During HD Radio broadcasting, available broadcast information will automatically appear on the LCD. Press the **DISP** button (7) multiple times to view broadcast information in the following order:

- Band/Frequency
- CH-NAME
- TITLE
- ARTIST
- CATEGORY
- Clock (only available when pressing **DISP** button)

The information will scroll across the screen if longer than 8 characters.

NOTE: The amount of information displayed when receiving an HD Radio signal is dependent on what is being broadcast. Some stations broadcast their call letters (name), the artist's name, song title, and category of music.

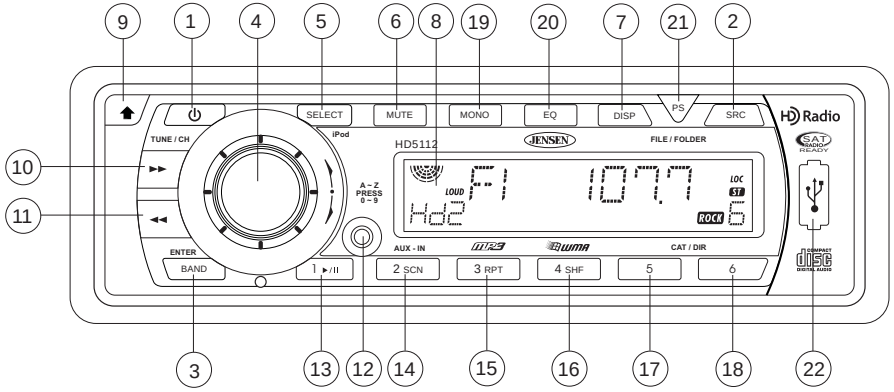
Satellite Radio Operation

Listeners can subscribe to XM® Radio on the Web by visiting www.xmradio.com, or by calling (800) 967-2346. Customers should have their Radio ID ready (see "Displaying the Identification (ID) Code"). Customers can receive a limited number of free-to-air channels without activation.

Listeners can subscribe to Sirius® Radio on the Web by visiting www.sirius.com, or by calling (888) 539-SIRIUS. Customers should have their Sirius ID ready (Sirius ID is located on the Satellite Radio Tuner, sold separately). Customers can listen to music samples by tuning to channel 184.

Accessing Satellite Radio Mode

To switch to satellite radio mode, press the **SRC** button (2) until "XM RADIO" or "SIRIUS" appears on the display. This will not be displayed unless the unit is connected an optional Sirius or XM receiver.



Displaying the Identification (ID) Code

Before you listen to satellite radio, you must subscribe to the service using your radio's identification number. To display the radio ID, press the **TUNE/CH <<** button (11) to access channel 000. The screen displays the radio ID where the channel name is usually displayed.

Selecting a Station

Press the **TUNE/CH >>** or **TUNE/CH <<** button (10 and 11) to change to another station. *Press and hold* the **TUNE/CH >>** or **TUNE/CH <<** button for more than one second to fast forward or fast reverse through the stations.

Preset Stations

Press the **BAND** button (3) to change between three user preset channel groups. Each channel group stores up to six preset stations. You can store and recall a total of 18 preset stations.

Store a Station

1. Select a channel group, then select a station.
2. Hold a preset button (13 – 18) for three seconds. The preset number appears in the display.

Recall a Station

1. Select a channel group.
2. Press a preset button (13 – 18) to select the corresponding stored station.

Tuner Modes

Press the **DISP** button (7) to change the tuner mode to the following options in the order listed.

- Channel Name
- Genre (News, Sports, Hits, Kids, etc.)
- Artist name
- Song Name

If the selected channel name, artist, or title exceeds eleven characters, the display information will scroll twice upon selection.

Direct Tuning Mode

To enter a station directly, perform the following steps.

1. Press the **SELECT** button (5) to enter direct tuning mode.
2. Turn the rotary encoder to display "XM CH_ _ _" or "SR CH_ _ _".
3. Turn the rotary encoder again to select the first digit of the desired channel (0, 1, or 2).
4. Press the **BAND/ENTER** button (3) to enter the first number and move to the second position.
5. Turn the rotary encoder again to select the second digit of the desired channel (0 - 9).

6. Press the **BAND/ENTER** button to enter the second number and move to the third position.

NOTE: Use the TUNE/CH >> or TUNE/CH << button (10 and 11) to move between the first and third positions.

7. Turn the rotary encoder again to select the third digit of the channel you want to tune to (0 - 9).
8. Press the **BAND/ENTER** button to enter the third number and access the channel.

Category Mode

To select stations in a specific category, perform the following steps.

1. Press the **SELECT** button (5) twice to select “CATEGORY” mode.
2. Press the **CAT/DIR /** and **\/** buttons (17, 18), labeled “5” and “6”, to select the desired category.
3. Press the **BAND/ENTER** button (3) to confirm.
4. Once a category is selected, use the **TUNE/CH >>** or **TUNE/CH <<** buttons to select stations in the current category.

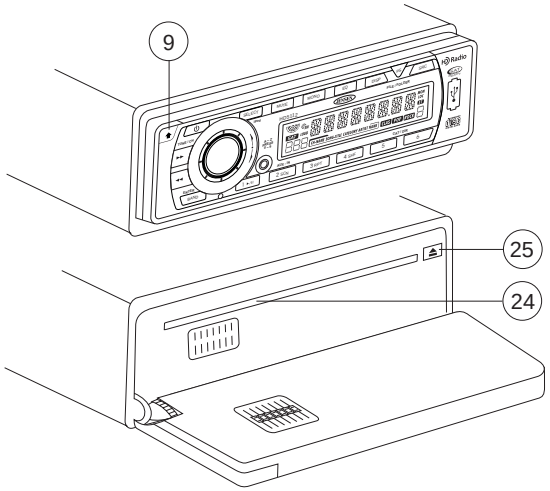
To exit category mode, press **SELECT**.

CD Player Operation

CDP mode can only be accessed when a disc is inserted. If a disc is already in place, press the **SRC** button (2) to access CDP mode and begin playback automatically.

Insert CD

Press the open button (9) and allow the front panel to fold down to display the disc slot. With the label surface facing up, fully insert a compact disc into the slot until the mechanism engages and pulls the disc in. After inserting a disc, lift the front panel up to return it to the closed position and begin playing the disc.



Eject CD

To eject a disc, first press the open button (9) and allow the front panel to fold down to display the disc slot (24).

Press the eject button (25) located to the right of the disc slot to eject the disc. If the disc is not removed from the unit within 15 seconds, the disc will be reloaded to prevent accidental damage.

NOTE: The unit is designed for play of standard 5" (12 cm.) compact discs only. Do not attempt to use 3" (8 cm.) CD singles in this unit, either with or without an adaptor, as damage to the player and/or the disc may occur. Such damage will not be covered by the warranty on this product.

Pause

Press the **1/>/||** button (13) to suspend disc play. Press the play/pause button again to resume disc play.

Track Select

Press the **TUNE/CH >>** (10) or **TUNE/CH <<** (11) button for less than one second to advance to the next track on the CD. The selected track number will appear on the display. *Press and hold* the **TUNE/CH >>** (10) or **TUNE/CH <<** (11) button for more than one second to fast forward or fast reverse through the disc. CD play starts when the button is released.

Intro Scan (SCN)

During disc play, press **2/SCN** (14) to play the first 10 seconds of each track on the disc. When the desired track is reached, press **2/SCN** again to end the scan and play the selected track.

Repeat (RPT)

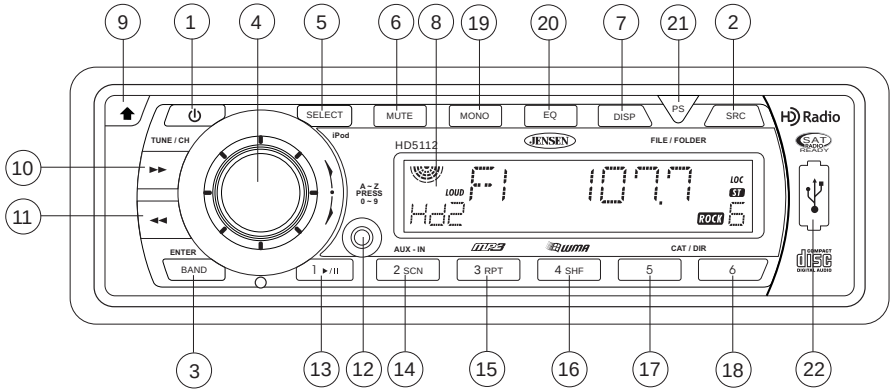
Press **3/RPT** (15) during disc play to continuously repeat the track. Press **3/RPT** again to stop repeating.

Random (SHF)

Press **4/SHF** (16) during disc play to play all tracks on a CD in random, shuffled order. Press **4/SHF** again to stop random play.

Display ID3 Tag Information

Press the **DISP** button (7) to display any encoded text (song title, artist, etc.).



CD Player Error Codes

If a problem should develop while operating the CD player, an error code (Error 1, Error 2, etc.) may appear on the display panel. This can indicate a number of problems with the unit, including a mechanical error or an error in the microprocessor control of the player. If an error code should appear, try

ejecting and reloading the disc into the player. While the disc is out of the unit, make sure it is clean and undamaged, and then load it correctly. If this does not solve the problem, pressing the reset button may help, but will erase the time and preset memory. If the suggested measures do not solve the problem, contact an authorized warranty station near you or contact customer service at 1-800-323-4815 for further assistance.

Electronic Shock Protection (ESP)

This unit is equipped with electronic shock protection as follows:

- 40 seconds for CDDA (CDA)
- 120 seconds for MP3 recorded at 44.1kHz, 128kbps
- 200 seconds for WMA recorded at 44.1kHz, 128kbps

MP3/WMA Operation

MP3 and WMA (Windows Media Audio) music files are digital audio files that are compressed to allow more files on a single CD. This unit can play MP3/WMA directly from files contained on a CD-R/RW, SD card or USB device using the buttons on the receiver (or optional remote control) as described below. Many types of software are available for converting audio files into MP3/WMA formats. Jensen recommends *Nero* or *Roxio Easy CD Creator*. Depending on the media type and recording method, some CD-R/RWs may be incompatible with this unit. This unit supports playback of MP3/WMA and CDDA (CDA), Mixed-Mode CDs and CD-Extra (including multi-session discs). **Discs on which the session has not been closed will not play.**

Notes on MP3 / WMA Play

This unit can play MP3 (MPEG1, 2, 2.5 Audio Layer 3). However, the MP3 recording media and accepted formats are limited. When writing MP3/WMA, pay attention to the following restrictions.

Acceptable Media

The MP3/WMA recording media acceptable to this unit are CD-ROM, CD-R and CD-RW, SD cards and USB devices. When using CD-RW, use full format rather than quick format to prevent malfunction.

Acceptable Medium Formats

The following formats are available for the media used in this unit. The maximum number of characters used for file name including the delimiter (".") and three-character extension are indicated in parentheses.

- ISO 9660 Level 1 (11 characters)
- ISO 9660 Level 2 (31 characters)
- Joliet (31 characters)
- Romeo (31 characters)

Up to 200 characters can be displayed in the long file name format. For a list of available characters, see the instruction manual of the writing software and the section “Entering File and Folder Names” below. The media reproducible on this unit has the following limitations:

- Maximum number of nested folders: 8
- Maximum number of files per disc: 999
- Maximum number of folders per disc: 255
- Maximum number of files per media device: 2000

MP3/WMA written in formats other than those listed above will not play successfully and their file names or folder names will not be displayed properly.

MP3/WMA Encoder and CD Writer Settings

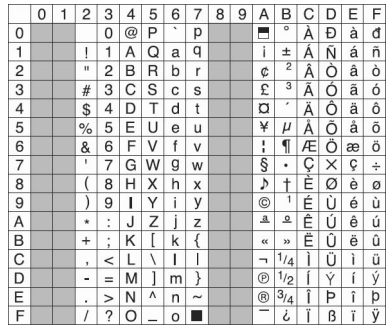
Use the following settings when compressing audio data in MP3 data with the MP3 encoder.

- Transfer bit rate: 32 - 320 kbps
- Sampling frequency: 32, 44.1, 48kHz (WMA) and 16, 22.05, 24, 32, 44.1, 48kHz (MP3)

When using a CD writer to record MP3/WMA up to the maximum disc capacity, disable additional writing. To record an empty disc up to the maximum capacity at once, select the “disc at once” option.

Entering ID3 Tag

This unit supports ID3 tag versions 1.0 and 1.1. For the character codes, refer to the table to the right.



	0	1	2	3	4	5	6	7	8	9	A	B	C	D	E	F
0				0	@	P	`	p			■	°	À	Đ	à	đ
1			!	1	A	Q	a	q			¡	±	Á	Ñ	á	ñ
2			"	2	B	R	b	r			¢	²	Â	Ò	â	ò
3			#	3	C	S	c	s			£	³	Ã	Ó	ã	ó
4			$	4	D	T	d	t			¤	´	Ä	Ô	ä	ô
5			%	5	E	U	e	u			¥	µ	Å	Õ	å	õ
6			&	6	F	V	f	v			¦	¶	Æ	Ö	æ	ö
7			'	7	G	W	g	w			§	·	Ç	×	ç	÷
8			(	8	H	X	h	x			♪	†	È	Ø	è	ø
9			)	9	I	Y	i	y			©	¹	É	Ù	é	ù
A			*	:	J	Z	j	z			ª	º	Ê	Ú	ê	ú
B			+	;	K	[	k	{			«	»	Ë	Û	ë	û
C			,	<	L	\	l	|			¬	¼	Ì	Ü	ì	ü
D			-	=	M	]	m	}			®	½	Í	Ý	í	ý
E			.	>	N	^	n	~			®	¾	Î	Þ	î	þ
F			/	?	O	_	o	■			¯	¿	Ï	ß	ï	ÿ

Entering File and Folder Names

Names using the code list characters are the only file names and folder names that can be entered and displayed. Using any other character will cause the file and folder names to be displayed incorrectly. The unit recognizes and plays only files with the MP3/WMA extension.

NOTE: A file name entered with characters not on the code list may not play correctly.

Writing Files into a Medium

When a medium containing MP3/WMA data is loaded, the unit checks all data. If the medium contains many folders or non-MP3/WMA files, MP3/WMA play will be delayed, it may take time for the unit to move to the next file, and searches may not be performed smoothly or it may not play at all. Loading such a medium may produce loud noise and cause damage to the speakers. ***Do not attempt to play a medium containing a non-MP3/WMA file with the MP3/WMA extension or a medium containing non MP3/WMA files.***

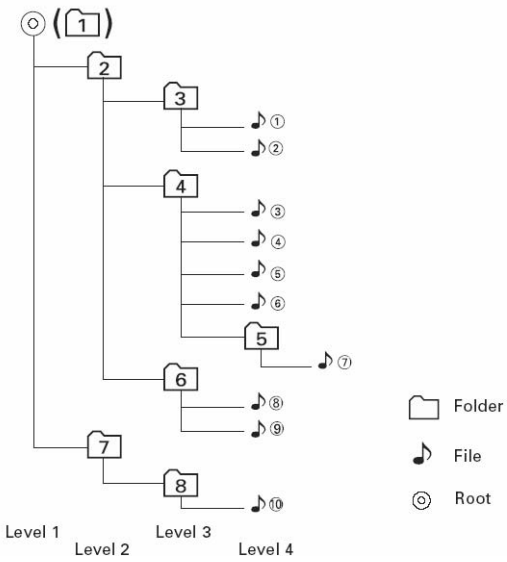
Bit Rates

The unit supports bit rates from 32 - 320 kbps.

FIle Playing Order

When selected for play, files and folders (Folder Search, File Search or Folder Select) are accessed in the order they were written by the CD writer. As a result, the order in which they are expected to be played may not match the order in which they are actually played. You may be able to set the order in which MP3/WMA are to be played by writing them onto a medium such as a CD-R with their file names beginning with play sequence numbers such as "01" to "99".

For example, a medium with the following folder/file hierarchy is subject to Folder Search, File Search or Folder Select as shown below.



Loading an MP3/WMA Disc

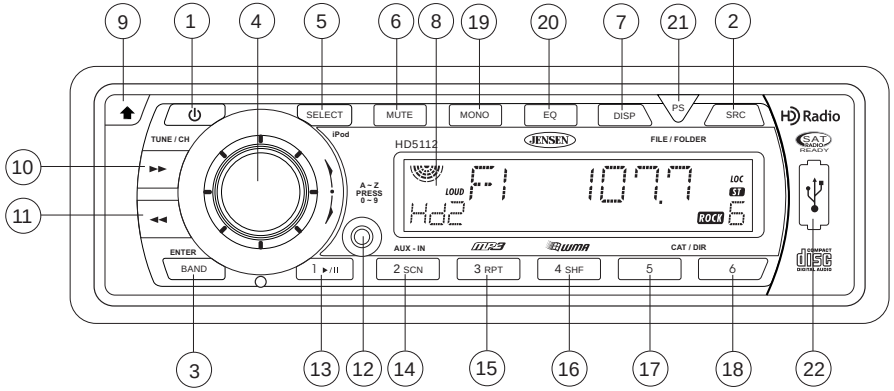
Press the open button (9) to lower the front panel, then Insert an MP3/WMA disc. After the disc is loaded, the track number and elapsed time will appear, then the display will scroll through any ID3 Tag information while the file is playing. If the disk contains ID3 tag information, you can scroll through it manually by pressing the **DISP** button (7). If no ID3 tag information is available, the unit will display the elapsed time. When ID3 information is available, the display will alternate between track name and format/track number.

Installing a USB Device

Gently lift the rubber USB slot cover (22) from the top and pull it down. Insert your USB thumb drive into the USB slot on the front of the radio. The unit will automatically search for MP3 and WMA files on the device and begin playback. You can access USB PLAY mode from any other mode by pressing the **SRC** button (2). “USb” is displayed in the bottom left corner of the LCD.

NOTE: Not all USB devices are supported by this unit. Standard USB memory sticks approved by Microsoft are supported.

WARNING: Do not remove the device when USB PLAY mode is active. Press SRC (2) to change to another mode before removing the device.



Loading an SD Card

Insert the SD card, label side up, into the SD slot located behind the front panel. Replace the front panel when finished.

NOTE: You must remove the front panel to access the SD card slot. See “Detaching the Front Panel” on page 7.

The unit will read the files on the card automatically. “Sd” appears in the bottom left corner of the display when an SD card is being read.

To remove the card, first press the **SRC** button (2) to switch to another mode and stop SD playback. Press in on the card to eject it, and then pull it

straight out. Most cards have a thin recess on the top of the card that helps with removal.

Pause

Press the **1/>/||** button (13) to suspend disc play. Press the play/pause button again to resume play.

Track Select

Press the **TUNE/CH >>** (10) or **TUNE/CH <<** (11) button for less than one second to advance to the next track on the disc, or press and hold to fast forward or fast reverse through the disc. Disc play starts when the button is released.

Navigating Folders

Press the **CAT/DIR /** and **\/** buttons (17, 18) to select the next or previous folder/directory.

Intro Scan (SCN)

During disc play, press **SCN** (14) to play the first 10 seconds of each track on the disc. When the desired track is reached, press **SCN** again to end the scan and play the selected track.

Repeat (RPT)

Press the **RPT** button (15) to repeatedly play the current file. Press **RPT** again to resume normal playback.

Random (SHF)

Press the **SHF** button (16) to randomly play all files on the disc. Press **SHF** again to resume normal playback.

MP3 / WMA File or Folder Search

The unit offers four methods of searching for files or folders on a disc.

Direct File Number Search

Press the **PS** button (21) to enter Direct Track Search mode. The LCD will display "MP3 T" followed by a blinking asterisk. Refer to the Number column in Table 1 to enter a track number to play. Pressing the appropriate key repeatedly will scroll through the corresponding number and characters.

Table 1: Search Characters

Key	Number	Characters
1 >/||	1	A, B, C
2 SCN	2	D, E, F
3 RPT	3	G, H, I
4 SHF	4	J, K, L
5	5	M, N, O
6	6	P, Q, R
SRC	7	S, T, U
TUNE/CH <<	8	V, W, X
TUNE/CH >>	9	Y, Z, blank
DISP	0	_, –, +

You can also use the rotary encoder (4) to enter search characters. Press the rotary encoder to confirm each entry.

If you enter a three-digit track number, the unit will search the track immediately. If you enter one or two digits, press the **BAND/ENTER** button (3) to begin the search, or wait a few seconds for the search to begin automatically.

Directory/File Search

1. Press the **PS** button (21) twice to enter Directory or File Name Search mode. The LCD will display a blinking asterisk.
2. Use the keys specified in Table 1 or turn the rotary encoder (4) to enter a search string.
3. Press the rotary encoder button to confirm each character.
4. Press the **BAND/ENTER** button (3) to begin the search.

If the search results in a directory name, (` `) will appear on the display.

1. In this case, use the **TUNE/CH >>** (10) or **TUNE/CH <<** (11) buttons to select a song/folder in the directory.
2. Press the **BAND/ENTER** button (3) to confirm and begin playback.
3. Repeat if the search results in another directory.

Root Directory Search

1. Press the **PS** button (21) three times to enter Root Directory Search mode. The LCD will display a series of question marks (??????) followed by the first folder or file name in the root directory.

2. Turn the rotary encoder (4) to browse all available folder or files in the root directory.
3. Press the rotary encoder button to select a folder or file.
   - If a folder is selected, two apostrophes (` `) appear on the LCD, indicating that the selection is a folder. Repeat steps 2 and 3 to select a file for playback.
   - If a file is selected, playback begins automatically.

Current Directory Search

1. Press the **PS** button (21) four times to enter Current Directory Search mode. The LCD will display the current directory name, followed by the file currently playing.
2. Turn the rotary encoder (4) to browse all available folders or files in the current directory.
3. Press the rotary encoder button to select a folder or file.
   - If a folder is selected, two apostrophes (` `) appear on the LCD, indicating that the selection is a folder. Repeat steps 2 and 3 to select a file for playback.
   - If a file is selected, playback begins automatically.
   - Select (` `) to return to the previous file level and select a different directory or file.

Display Information

Press the **DISP** button (7) to display the clock or available ID3 information, as follows: song title, directory name, artist name, etc.

iPod Operation

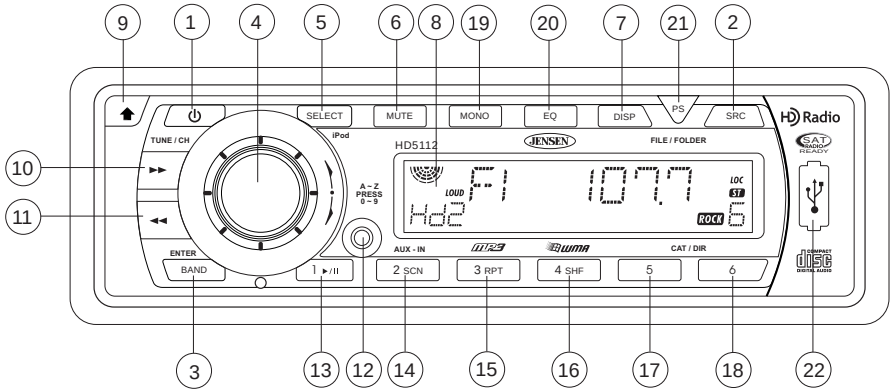
Accessing iPod Mode

This unit is equipped with an iPod ready function that will allow you to control your iPod (if compatible) using the front panel control buttons. The following iPod versions are supported:

- iPod 3G (Firmware version 2.2 only)
- iPod Mini
- iPod Photo
- iPod Nano
- iPod 5G (Video)

The unit will automatically switch to iPod mode when an iPod is plugged into the iPod cable. To return to the iPod menu from any other source menu, press the **SRC** button (2) on the front panel or remote control until “IPO” appears on the display.

NOTE: The HD5112 will not select video files when the iPod is plugged into the radio. Only music files are supported.



Turning the iPod On / Off

The iPod power turns on automatically when the iPod is connected to 30-pin iPod cable, as long as the automobile ignition is turned on. You can turn the iPod off by disconnecting it from the cable or by turning the ignition off. When the ignition is turned off, the iPod will pause and then enter sleep mode after 2 minutes.

NOTE: The iPod will continuously recharge when connected to unit, as long as the vehicle ignition is turned on.

Display Information

iPod song information, when available, appears on the LCD screen automatically during playback. Press the **DISP** button (7) to manually display iPod playback information in the following order:

- Track/Elapsed Time
- Song TITLE
- ARTIST
- CATEGORY (Album Name)
- Clock

Play / Pause

Press the **1/>/||** button (13) to suspend or resume play. “PAU” flashes on the display when paused.

Track Selection

Select a Track

Press the **TUNE/CH >>** (10) or **TUNE/CH <<** (11) for less than 1 second to advance to the next song in the current category. When a song has been playing for at least one second, press the **TUNE/CH <<** (11) to replay the song from the beginning. When a song has been playing for more than one second, you must press **TUNE/CH <<** twice to move to the previous file.

Fast Forward / Fast Reverse

Press and hold the **TUNE/CH >>** (10) or **TUNE/CH <<** (11) for more than 1 second to fast forward or fast reverse. Playback begins when the button is released.

Repeat (RPT)

Press the **RPT** button (15) during disc play to continuously repeat the selected song. Press **RPT** again to stop the repeat function.

Press and hold the **RPT** button (15) for more than 3 seconds to continuously repeat the entire album/folder. *Press and hold* **RPT** again to stop the repeat function.

Shuffle (SHF)

Press the **SHF** button (16) to randomly play the files in all folders Press **SHF** again to stop the shuffle function and resume normal playback.

Press and hold the **SHF** button to randomly play the files in the current album (folder). “SHF ALBM” appears on the display. *Press and hold* **SHF** again to stop the shuffle function.

Category Search Mode

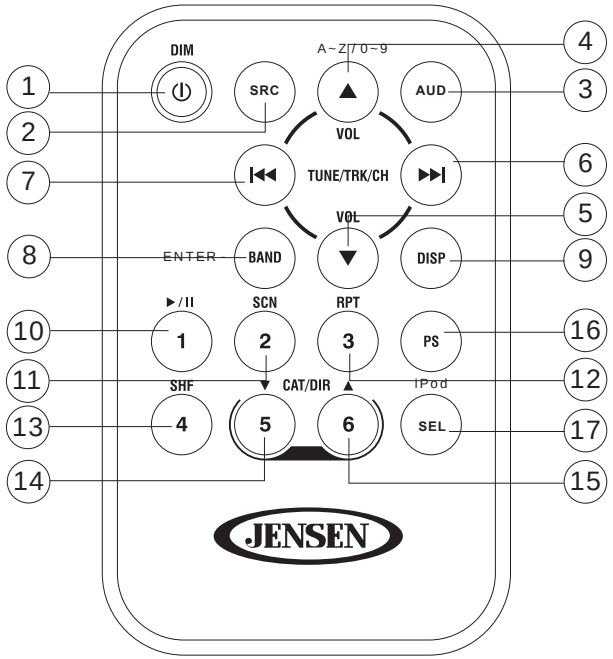
1. During iPod playback mode, press the **SELECT** button (5) to enter iPod Category Search Mode.
2. Turn the rotary encoder (4) to access categories in the following order:
   - Playlist
   - Artist
   - Album
   - Genre
   - Song
   - Composer
3. After selecting the desired category, press the **BAND/ENTER** button (3) within 5 seconds to confirm.
4. Turn the rotary encoder (4) to browse songs or folders in the current category.
5. Press the **BAND/ENTER** button (3) within 5 seconds to select a category/song.
6. Repeat steps 4 and 5 until the desired song is played.

Remote Control

The remote control will allow you to control the basic functions of the HD5112. The remote control sensor is at the top left below the **SELECT** button (5).

Table 2: Remote Control Functions

Key	Tuner	CD Player	MP3	iPod	Satellite
1	Power On/Off LCD Dimmer	Power On/Off LCD Dimmer	Power On/Off LCD Dimmer	Power On/Off LCD Dimmer	Power On/Off LCD Dimmer
2	Select Source	Select Source	Select Source	Select Source	Select Source
3	Audio Menu	Audio Menu	Audio Menu	Audio Menu	Audio Menu
4	Volume Up	Volume Up	Volume Up Character Entry	Volume Up Character Entry	Volume Up
5	Volume Down	Volume Down	Volume Down	Volume Down	Volume Down
6	Channel Up	Track Up	File Up	File Up	Channel Up
7	Channel Down	Track Down	File Down	File Down	Channel Down
8	Change Band/ Confirm Entry	Confirm Entry	Confirm Entry	Confirm Entry	Change Band/ Confirm Entry
9	Display/Set Clock Broadcast Infor- mation	Display/Set Clock	Display/Set Clock ID3 Information	Display/Set Clock ID3 Information	Display/Set Clock Broadcast Infor- mation
10	Preset Station 1	Play/Pause	Play/Pause	Play/Pause	Preset Station 1
11	Preset Station 2	Intro Scan	Intro Scan	Intro Scan	Preset Station 2
12	Preset Station 3	Repeat Track	Repeat File/ Repeat Folder	Repeat File/ Repeat Folder	Preset Station 3
13	Preset Station 4	Shuffle Tracks	Shuffle All/Shuffle Folder	Shuffle All/Shuffle Folder	Preset Station 4
14	Preset Station 5		Folder Down	Folder Down	Preset Station 5 Category Down
15	Preset Station 6		Folder Up	Folder Up	Preset Station 6 Category Up
16	Preset Scan		File/Folder Search		Preset Scan
17	Access Multicast (HD Radio only)			Search Files	Direct Tuning



Care and Maintenance

CD Player

The following guidelines will help you extend the life of your CD player:

1. When cleaning the vehicle interior, do not get water or cleaning fluids on the unit.
2. The CD player will not operate properly in extreme hot/cold or under damp conditions. In case of such conditions, wait until the vehicle interior reaches a normal temperature or any condensation on the disc player lens has evaporated before using the player.
3. Never insert anything other than round 5” CDs into the player. Attempting to insert CDs of other sizes (even with an adaptor) will cause damage not covered by the warranty.
4. Always remove the CD when the player is not is use.
5. The unit is designed with a vibration dampening CD mechanism to minimize interruption of disc play due to normal vibration in a moving vehicle. However, occasional sound skips may occur when driving on very rough roads. This will not scratch or damage the disc, and normal play will resume when the rough conditions cease.

Compact Discs

CD-R and CD-RW Capability

Depending on media type and method of "recording/burning", some CD-R/RWs may be incompatible with this unit. After "recording/burning", the session must be closed. Please refer to your software's recommended procedures for closing a disc/session. Review your recording software to familiarize yourself with the correct "recording/burning" procedures. We recommend using the latest versions of ROXIO™ or NERO™ burning software.

In addition, **this unit will only recognize the CDDA (Compact Disc Digital Audio), .MP3 and .WMA formats** "recorded / burned" onto a CD-R/RW. **This unit does not support .WAV, .OGG or other formats.**

CD Care and Handling

Dirt, dust, scratches and warpage can cause skips in the playback and deterioration of sound quality. Please follow these guidelines to take care of your compact discs.

1. Carefully wipe fingerprints, dust and dirt from the disc’s playing surface with a soft cloth. Wipe in a straight motion from the inside to the outside of the disc.
2. Never use chemicals such as record sprays or household cleaners to clean CDs, as they can irreparably damage the disc’s surface.
3. Discs should be kept in their storage cases when not in use.
4. Do not expose discs to direct sunlight, high temperatures or high humidity for long periods.
5. **Do not stick paper, tape or CD labels on disc surfaces, as internal damage may occur.**

Troubleshooting

Problem	Cause	Corrective Action
Does not operate (display does not light)	No power to yellow wire; no power to red wire	Check connection with test light; check vehicle fuse with test light
	Fuse blown	Replace fuse
	Front panel not installed properly	Reinstall front panel
No power to unit	Fuse blown	Check/replace fuse
Not all speakers operate	Incorrect splices or connections	Check all splices and connections
	Speaker wires shorting to chassis ground or to each other	Check splices, insulate all bare wires
Blows fuses	Power wire shorting to ground	Make sure wire is not pinched
	Speaker wires shorting to ground	Make sure wire is not pinched
	Incorrect fuse/fuse too small	Install fuse of correct rating
CD skips too much	Receiver mount is not solid or backstrap is not secure	Check mounting and backstrap, tighten if needed
	Installation angle more than 30%	Adjust angle to less than 30%
ERROR 1	Mechanism error	Press reset button
No File	No supported files found on disc/card	Insert different disc card with appropriate file type
Disc error	Disc dirty, scratched, upside down	Replace with clean, properly installed disc

Specifications

CEA Power Ratings

Power Output . . . . . 13 Watts RMS x 4 channels into 4-Ohms @ ≤ 1% THD+N
Signal to Noise Ratio. . . . . 70dBA below reference (Reference: 1 Watt, 4-Ohms)
Frequency Response . . . . . 20 Hz - 20 kHz, -3dB. (Aux Input used as reference input)
Reference Supply Voltage. 14.4VDC

CD Player

Compatible Disc Media . . . . . CD-R/RW
Compatible Media Formats . . . . . CD-DA, MP3, WMA
Signal to Noise Ratio @ 1 kHz . . . . . >90dB
Frequency Response . . . . . 20Hz to 20 kHz, -3dB
Channel Separation . . . . . > 60dB @ 1 kHz
D/A Converter 1bit/channel

FM Tuner

Tuning Range . . . . . 87.5MHz - 107.9MHz
Mono Sensitivity (-30dB). 11dBf
Quieting Sensitivity (-50dB). 15dBf
Signal to Noise Ratio @ 1 kHz 58dB
Stereo Separation @ 1 kHz. . . . . >30dB
Frequency Response . . . . . 30Hz - 12kHz, -3dB

AM Tuner

Tuning Range . . . . . 530 kHz - 1710 kHz
Sensitivity (-20dB). 15uV
Signal to Noise Ratio @ 1 kHz 50dB
Frequency Response . . . . . 50Hz - 2kHz, -3dB

Auxiliary Input

Input Sensitivity. . . . . 400mV RMS for 1 watt RMS into 4-ohms
Frequency Response . . . . . 20Hz to 20kHz, -3dB
Input Impedance . . . . . 10k ohms

General

Power Supply . . . . . 11 to 16VDC, negative ground
Power Antenna (Blue) . . . . . 500mA max, current limited protection
Operating Temperature . . . . . -20C ~ 65C
Fuse . . . . . 15-amp, ATO type
DIN chassis dimensions . . . . . 7" X 7" X 2" (178mm x 178mm x 50mm)

Specifications subject to change without notice.

Limited Warranty

CD or Multimedia Radios/Headunits

DO NOT RETURN THIS PRODUCT TO THE STORE

Audiovox Electronics Corporation ("the Company") is committed to quality and customer service, and are pleased to offer you this Warranty. Please read it thoroughly and contact the Company at 1-800-323-4815 with any questions.

Who is covered?

The Company extends this warranty to the original retail purchaser of products purchased through an authorized Audiovox retailer in the U.S.A., Puerto Rico or Canada. This warranty is not transferable or assignable. Proof of purchase is required in the form of an original sales receipt.

What is covered?

The Company warrants that should this product or any part thereof, under normal use, be proven defective in material or workmanship within 12 months from the date of original purchase, such defect(s) will be repaired or replaced with a new or reconditioned product (at the Company's option) without charge for parts and repair labor.

What is not covered?

This Warranty *does not* cover the following:

- Damage incurred during shipping or transporting the product to the Company or a service center
- Elimination of car static or motor noise
- Defects in cosmetic, decorative or non-operative structural parts
- Correction of antenna problems
- Costs incurred for installation, removal or reinstallation of the product
- Consequential damage to compact discs, USB devices, digital media cards, accessories or vehicle electrical systems
- Damage caused by improper installation, mishandling, misuse, neglect, accident, blown fuse, battery leakage, theft or improper storage
- Products whose factory serial number/bar code label(s) or markings have been removed or defaced
- Damage resulting from moisture, humidity, excessive temperature, extreme environmental conditions or external natural causes

Please review the "Care and Maintenance" section of your Installation and Operation Manual for additional information regarding the proper use of your product.

Limitations

THE EXTENT OF THE COMPANY'S LIABILITY UNDER THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT PROVIDED ABOVE AND, IN NO EVENT, SHALL THE COMPANY'S LIABILITY EXCEED THE PURCHASE PRICE PAID BY PURCHASER FOR THE PRODUCT.

This Warranty is in lieu of all other express warranties or liabilities. ANY IMPLIED WARRANTIES, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY, SHALL BE LIMITED TO THE DURATION OF THIS WRITTEN WARRANTY. ANY ACTION FOR BREACH OF ANY WARRANTY HEREUNDER INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY MUST BE BROUGHT WITHIN A PERIOD OF 24 MONTHS FROM DATE OF ORIGINAL PURCHASE. IN NO CASE SHALL THE COMPANY BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGES FOR BREACH OF THIS OR ANY OTHER WARRANTY, EXPRESS OR IMPLIED, WHATSOEVER. No person or representative is authorized to assume for the Company any liability other than expressed herein in connection with the sale of this product.

Some states do not allow limitations on how long an implied warranty lasts or the exclusion or limitation of incidental or consequential damage so the above limitations or exclusions may not apply to you. This Warranty gives you specific legal rights and you may also have other rights which vary from state to state.

Obtaining Warranty Service

- To obtain repair or replacement within the terms of this Warranty, call 1-800-323-4815 for the location of a warranty station serving your area.
- You must prepay the initial shipping charges to the Company. The Company will pay the return shipping charges for all warranteed products returned to an address within the U.S.A., Puerto Rico or Canada.
- Please package the product securely to avoid shipping damage. We recommend using a carrier that provides tracking service to prevent lost packages. Lost or damaged packages are not covered by this warranty.
- Provide a detailed description of the problem(s) for which you require service.

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